

REMARKS

This paper is being provided in response to the Office Action mailed September 27, 2007, for the above-referenced application. In this response, Applicants have cancelled claims 1, 5-14, 24-27, 38-40 and 44-45 (claims 2-4, 15-23, 28-37, 41-43 and 46 having been previously cancelled) without prejudice or disclaimer of the subject matter thereof, amended claims 47, 60 and 63 and added new claims 65 and 66 to clarify that which Applicants consider to be the presently-claimed invention. Applicants respectfully submit that the amendments to the claims and the new claims are fully supported by the originally-filed specification. (See, for example, Fig. 8, and page 15, line 21 to page 16, line 2 of the originally-filed specification.)

The rejection of claims 1, 5-14, 24-27, 38-40, 44-45 and 47-64 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,847,038 to Todokoro, et al. (hereinafter "Todokoro") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein. Claims 1-46 have been cancelled herein and claims 47-64 and new claims 65 and 66 are pending in view of the amendments herein.

Independent claim 47, as amended herein, recites an electron-beam device having an optical axis which includes a beam generator that generates an electron beam. An objective lens focuses the electron beam on an object to be examined. A first detector detects electrons emitted by the object, the first detector being positioned object-side along the optical axis. A second detector detects electrons scattered on the object, the second detector being positioned generator-side along the optical axis. At least one opposing field grid is allocated to the second detector, wherein a voltage is applied to the opposing field grid such that a portion of the electrons emitted

by the object and having passed the first detector is not detected by the second detector. Claims 48-59 depend directly or indirectly from independent claim 47.

Independent claim 60, as amended herein, recites a method of detecting electrons which includes generating an electron beam. The electron beam is focused on an object to be examined. Electrons emitted by the object are detected using a first detector, the first detector being positioned object-side along an optical axis. Electrons scattered on the object are detected using a second detector, the second detector being positioned generator-side along the optical axis. A portion of the electrons is selected according to electron energy, wherein the selecting includes using a diaphragm, the diaphragm including at least one opposing field grid, and wherein the selecting includes applying a voltage to the opposing field grid such that a portion of the electrons emitted by the object and having passed the first detector is not detected by the second detector. Claims 61-64 depend from independent claim 60.

The Todokoro reference discloses a scanning electron microscope with an energy filter which can positively utilize secondary electrons and/or reflected electrons which collide against a mesh electrode and are lost. The Office Action cites to Figures 10 and 21 of Todokoro.

Applicants' independent claims 47 and 60, as amended herein, recite at least the features that a first detector, positioned object-side along the optical axis, detects electrons emitted by the object to be examined and a second detector positioned generator-side along the optical axis detects electrons scattered on the object. Applicants submit that Todokoro discloses that the detector positioned object-side detects secondary electrons generated due to a collision of the

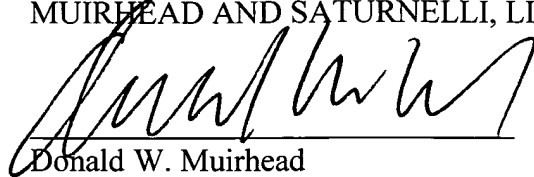
secondary electrons emitted by the object with the opposing field grid (see, for example, Fig. 10, col. 9, lines 21-22, and col. 10, lines 7-45 of Todokoro). Therefore, Applicants submit that the detector disclosed in Todokoro positioned object-side does not detect electrons emitted by the object to be examined. Accordingly, Applicants respectfully submit that Todokoro does not teach or fairly suggest at least the above-noted feature as claimed by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

Further, Applicants have added new claims 65 and 66 herein. Applicants submit that the subject matter of these claims is fully supported by the originally-filed specification. (See, for example, Fig. 2, Fig. 8 and page 15, lines 22-23 of the originally-filed specification.) Applicants note that claim 65 recites at least features that selecting a portion of electrons includes applying a voltage to the at least one opposing field grid such that electrons scattered on the object strike the detector and such that electrons emitted by the object do not strike the detector. Applicants submit that Todokoro does not disclose at least these features. Furthermore, Applicants note that claim 66 recites a beam guiding tube which is on the anode potential and in which the energy of the electrons is maintained and an electrode which together with the specimen is on a potential that is lower in relation to the potential of the beam guiding tube so that the electrons in the electron beam are slowed down to a desired low energy shortly before striking the specimen. Applicants submit that Todokoro does not disclose using a beam guidance tube and, moreover, does not disclose that the detector detecting electrons scattered on the specimen is within a beam guidance tube. Todokoro discloses that the detector is above a cylinder 9 (see Fig. 21 of Todokoro). Accordingly, Applicants respectfully submit that the new claims 65 and 66 are patentable over the cited prior art.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 508-898-8603.

Respectfully submitted,
MUIRHEAD AND SATURNELLI, LLC

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A handwritten signature in dark ink, appearing to read 'Donald W. Muirhead', written over a horizontal line.

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